* Can you think of a few applications for a sequence-to-sequence RNN? What about a sequence-to-vector RNN? And a vector-to-sequence RNN?
* >>>>>Machine Translation: Translating text from one language to another.
* Speech Recognition: Converting spoken language into written text.
* Text Summarization: Generating concise summaries of longer texts.
* Language Generation: Generating creative text, such as poetry or story generation.
* Why do people use encoder–decoder RNNs rather than plain sequence-to-sequence RNNs for automatic translation?
* >>>>>Sentiment Analysis: Classifying the sentiment of a text as positive, negative, or neutral.
* Document Classification: Assigning a category or label to a document.
* Video Classification: Assigning a label or category to a video based on its content.
* How could you combine a convolutional neural network with an RNN to classify
* videos?
* >>>>Image Captioning: Generating textual descriptions for images.
* Music Generation: Generating music sequences or compositions.
* Video Description: Generating textual descriptions or subtitles for videos.
* What are the advantages of building an RNN using dynamic\_rnn() rather than static\_rnn()?
* >>>>>Encoder-Decoder RNNs are used for tasks like machine translation because they can handle variable-length input and output sequences. The encoder processes the input sequence, and the decoder generates the output sequence.
* How can you deal with variable-length input sequences? What about variable-length output sequences?
* >>>>>>You can use a 3D convolutional neural network (3D CNN) to capture spatial and temporal features from video frames.
* The output of the CNN can be fed into an RNN (e.g., LSTM or GRU) to model sequential dependencies over time.
* What is a common way to distribute training and execution of a deep RNN across multiple GPUs?

>>>>Data parallelism: Split the training data across multiple GPUs, compute gradients independently, and then aggregate them.

Model parallelism: Split the RNN layers across multiple GPUs, passing activations between layers as needed.